REMARKS

In the Non-Final Office Action of June 20, 2005, claims 1-20 are pending. Claims 1, 9, and 20 are independent claims from which all other claims depend therefrom.

Claims 1-4, 6-7, 9, 12, 15-18, and 20 stand rejected under 35 U.S.C. 102(e) as being unpatentable over Morizane et al. (2002/0026274).

Claims 1 and 9 have similar limitations and are therefore described together. Claims 1 and 9 recite a sensing system for a vehicle and a method of performing safety system operations within a vehicle. The sensing system of claim 1 includes the limitations of a single vision sensor having a position with coordinates on the vehicle and a controller generating a safety system signal in response to the coordinates. The method of claim 9 includes similar limitations, specifically, determining the coordinates of only a single vision sensor and generating a safety system signal in response to the determined position.

The Office Action states that Morizane discloses the claimed limitations of claim 1 and 9 and refers to paragraphs [0002]-[0004], [0069], [0079], [0098]-[0100] and to Figures 1-2, 5, 7, 10, 11, 14-15, 18, 23, and 28 for such reliance. Applicant, respectfully, traverses.

Morizane discloses a vehicle cruise control system that includes a camera device. The camera device is used to determine the width of a leading vehicle. The control system determines the distance between a leading vehicle and a master vehicle based upon change in that width. In response to the determined distance, the control system adjusts the speed of the vehicle through braking, throttle control, or transmission control. Applicant submits that nowhere in Morizane is the distance between a leading vehicle and a master vehicle determined in response to the coordinates of the camera device. Nowhere in Morizane are the coordinates or location of the camera device or any use thereof mentioned. Although Morizane discloses the use of a single camera, Morizane fails to teach or suggest the limitations of generating a safety system signal in response to the coordinates of a single vision sensor.

In paragraphs [0002]-[0004], Morizane discloses an adaptive cruise control apparatus that determines the distance between a leading vehicle and a master vehicle based on the width of the leading vehicle, the number of pixels in a horizontal direction, and the horizontal angle of view. Adaptive cruise control is performed based on the determined distance. Nowhere in the stated paragraphs are the coordinates of a camera determined.

In paragraph [0069], Morizane discloses that the reference parameter value, or in other words, the reference or initial width of the leading vehicle is defined based on the speed of the master vehicle. Thus, the microcomputer of the system of Morizane calculates the braking distance based on the speed of the master vehicle and the initial width of the leading vehicle. Again, Morizane is silent with respect to determining coordinates of a single vision sensor.

In paragraph [0079], Morizane discloses the use of a vehicle speed sensor to maintain a braking distance. Again, there is no mention of vision sensor coordinates.

In paragraphs [0098]-[0100], Morizane discloses the altering of constant coefficients α and β, which are associated with formulas that relate braking distance to vehicle speed. The adjustments of α and β affect the braking distance of the master vehicle. Again, Morizane fails to disclose vision sensor coordinates and the determination thereof.

In Figures 1, 11, 15, 18, and 23, Morizane simply discloses a camera device coupled to an image processor, which is used to extract a feature value from an image, such as the above-stated width of the leading vehicle. This is indicated by the W on the signal be transmitted between the image processor and the adaptive cruise control unit of each Figure. There is no disclosure, illustration, or use of vision sensor coordinates in any of the stated Figures.

In Figures 2, 5, 7, 10, 14, and 28, Morizane provides sample camera images of a leading vehicle at different points in time, on different road segments, and widths and distances of the leading vehicle, as well as an illustration of the masking process. None of the images include vision sensor coordinates.

Claim 20 is similar to claims 1 and 9 and recites an adaptive cruise control system and the limitations of a controller that determines the size and up-angle of a detected object in response to the coordinates of a single vision sensor, determining the range of the object in response to the size and up-angle, and reducing the speed of the vehicle in response to the range. Since Morizane fails to teach or suggest determining the coordinates of a single vision sensor, Morizane also fails to teach or suggest any of the other stated limitations, which are performed in response thereto.

In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628. Thus, since Morizane fails to teach or suggest each and every element of claims 1, 9, and 20, they are novel, nonobvious, and are in a condition for allowance. Therefore, since claims 2-4, 6-7, 11-12, and 15-19 depend from claims 1 and 9, respectively, they too are also novel, nonobvious, and allowable for at least the same reasons.

Claims 5, 8, 10, and 13-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Morizane in view of Hirabayashi (U.S. Pat. No. 5,874,904).

Applicant submits that since claims 5, 8, 10, and 13-14 depend from claims 1 and 9, respectively, they too are novel, nonobvious, and are in a condition for allowance for at least the same reasons.

With respect to claims 5 and 10, the Office Action states that Morizane does not teach determining the position of the vision sensor relative to a predetermined reference on the vehicle. Applicant agrees. However, the Office Action states that Hirabayashi provides such teaching and refers to col. 1, lines 60-67, and col. 2, lines 1-13 of Hirabayashi. Applicant traverses.

In the stated sections, Hirabayashi discloses using the coordinates of multiple sensor arrays to establish triangular relationships for determination of the distance of a target. The coordinates are determined relative to an x-axis passing through the sensor arrays and a midpoint or origin between the sensor arrays. The coordinates are not determined in relation to a reference point of a

vehicle. The location of the sensor arrays determines the midpoint therebetween, or in other words, the midpoint is dependent upon the position of the sensor arrays. This is unlike the claimed invention in which position of the single vision sensor is determined relative to a reference point on a vehicle. Thus, the position or the coordinates of the single vision sensor claimed are dependent upon the location of the reference point. Also, although the midpoint determined in Hirabayashi may be associated with a position or point on a vehicle, such association is not made by the system of Hirabayashi. Besides, nowhere in Hirabayashi or in Morizane are the coordinates of only a single vision sensor determined. Thus, claims 5 and 10 are further novel and nonobvious for the stated reasons.

With respect to claim 8, the Office Action states that Morizane does not teach a memory coupled to a controller and storing the information regarding position. Applicant agrees. However, the Office Action states that Hirabayashi teaches this in Figure 24. Applicant traverses. Although Hirabayashi discloses a memory, the memory is not used to store a predetermined position of a single vision sensor. The memory 55 of Figure 24 is used to store image data. This is stated in col. 1, lines 39-45. Nowhere in Hirabayashi or in Morizane is the storage of the position or coordinates of a single vision sensor stored. Thus, claim 8 is further novel and nonobvious for the stated reasons.

In light of the remarks, Applicant submits that all of the rejections are overcome. The Applicant has added no new matter to the application. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, she is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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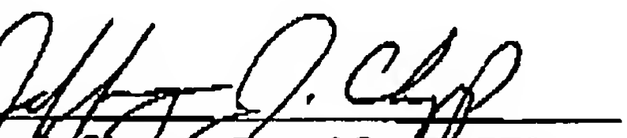

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Dated: September 14, 2005